6021

BOARD DIPLOMA EXAMINATION, (C–16)
MARCH/APRIL—2017
DCE—FIRST YEAR EXAMINATION

SURVEYING—I

Time : 3 hours] [*Total Marks* : 80

PART—A 3×10=30

Instructions : (1) Answer **all** questions.

(2) Each question carries **three** marks.

(3) Answers should be brief and straight to the point and shall not exceed *five* simple sentences.

1. State the purpose of surveying.

2. Define offset and mention the types of offset.

3. State the principles of chain surveying.

4. Define the term declination.

5. The bearing of line *AB* is 280°15 and the bearing of another line *AC* is 18°15 . Find the interior angle *AC*.

6. List the precautions to be taken to prevent errors in levelling.

7. Define the following terms :

(a) Change point

(b) Line of collimation

(c) Reduced level

8. What are the different corrections applied in levelling?

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9. Define the following terms :

(a) Contour gradient

(b) Horizontal equivalent

10. State the uses of any three minor instruments.

PART—B 10×5=50

Instructions : (1) Answer *any* **five** questions.

(2) Each question carries **ten** marks.

(3) Answers should be comprehensive and the criterion for valuation is the content but not the length of the answer.

11. (a) Explain briefly about classification based on the nature of the field survey.

(b) What are the applications of electronic planimeter?

12. What are different instruments used in chain surveying? Explain their functions.

13. A chain line *AB* is obstructed by a big pond and the points *A* and *B* are on either side of the pond. At *A* a line *CAD* was ranged out. The distances *AD* 320 m, *AC* 280 m, *DB* 530 m and *CB* 485 m are measured. Find the distance *AB*.

14. (a) Define local attraction and how you can detect local attraction.

(b) State various errors that occur in compass surveying.

15. Determine the values of included angles in a closed compass traverse *ABCD*, conducted in the clockwise direction, given the following fore bearings of the respective lines.

Line	Fore Bearing
AB	40°00
BC	70°00
CD	210°00
DA	280°00

16. What are the precautions to be taken to avoid errors in levelling?

17. The following staff readings were observed successively with a dumpy level and levelling staff. The instrument was shifted after second and fifth readings 0·675, 1·230, 0·750, 2·565, 2·225, 1·935, 1·835 and 3·220. The first staff reading was taken with staff held on a BM of RL of 125·325 m. Enter the readings in the level book. Compute the RLs by HI method. Apply the check.

18. Write various characteristics of contours.

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